

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:	)	
	)	
KELLER et al.	)	
	)	Examiner: C. D. Sayala
Serial No.: 10/816,850	)	
	)	Art Unit: 1761
Filed: April 5, 2004	)	
	)	Atty. Docket No.: 119544-00101
For: ENVIRONMENTALLY	)	
FRIENDLY GRANULATED	)	
POULTRY LITTER	)	
FERTILIZER	)	

**DECLARATION OF FREDERIC T. HEASLEY UNDER 37 C.F.R. § 1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In support of the patentability of the above-identified patent application, I, Frederic T. Heasley of 8587 N. Clear Creek Road, Huntington, IN 46750, declares as follows:

1. I am the President of Heasley Agronomics, Inc., a company dedicated to development, research, manufacturing, and marketing of micronutrient products. The company also performs research and development on crop formulations for agricultural and horticultural uses. I have spent more than three decades with various companies, in various capacities, developing fertilizer formulations, researching nutrient formulation to increase crop yield, managing plants producing fertilizer products, engineering environmental systems for controlling ammonia content in the poultry industry, and researching uses for sulfates and ammonia. I have served as a consultant and manager to many organizations, including as ammoniated fertilizer plant

manager with W. R. Grace, and as product development agronomist with Sims Agriculture. I hold B.S. in agronomy from Ohio State University.

2. I have consulted with Mr. William Keller, the inventor of the U.S. Patent Application Serial No. 10/816,850, and have reviewed the application and the cited references.
3. The fertilizer claimed in the above-identified patent application is currently unique and solves many problems that is associated with current poultry fertilizers. In its original state, raw poultry litter is volatile due to inherent methane and ammonia gases, has a noxious odor, has a high potential for spontaneous combustion, and contains arsenic, pathogens and high levels of phosphorus, all known to be hazardous to human health and the environment. Because of its classification as a hazardous waste by the Environmental Protection Agency (EPA) and reported contamination of ground water, its use in its original form has been banned or heavily restricted in most areas of the U.S.
4. While poultry litter in its raw form contains a nitrogen, it is uncontrollable, because the ammonia continuously evaporates from the raw litter resulting in the offensive odor of the litter. This, in turn, reduces the nitrogen content of the final fertilizer product. This is a major problem with poultry litter processing, as nitrogen content is normally lost as ammonia vapors during its processing. Therefore, due to the ammonia evaporation, the nitrogen content of the raw poultry litter is much higher than that of the final fertilizer product.
5. Additionally, as discuss above, the phosphorus content of poultry litter renders it a major environmental problem. However, because phosphate does not readily evaporate from the raw litter during processing, its content must be eliminated from the final fertilizer product if one wants to reduce phosphorus content.

6. Because nitrogen content is lost through poultry litter processing while phosphorus content remains the same. The usual final product generally contains a nitrogen content much lower than that of the raw poultry litter, while the phosphorus content remains similar to that of the raw poultry litter. Any attempt in lowering the phosphorus content of the final product still does not replace the lost nitrogen.

7. The product claimed in the above-identified patent application resolves both problems of fertilizer manufacturing, namely 1) maintaining the nitrogen content in the final fertilizer product; and at the same time 2) lowering the phosphorus content of final fertilizer product. This accomplishment is not taught in any of the cited references. Additionally, this is in contrary to and unexpected from the present understanding and state of the art where the nitrogen is lowered and the phosphorus remains the same after poultry litter processing.

8. The current claims of a final fertilizer product having about 1-2.5 % nitrogen and 0.35% phosphorus clearly shows minimal decrease of nitrogen content with a substantial decrease of phosphorus when compared to the raw poultry litter (see Table I of the specification). Any assertion that these nitrogen and phosphorus contents are inherent from contents of raw poultry litter is erroneous because nitrogen is usually lost during poultry litter processing, as discussed above.

9. Additionally, the allegation that one of ordinary skill in the art would have been able to produce the claimed invention is also erroneous. Certainly, one skilled in the art could assay the soil to determine the soil nutrient contents and crop needs; however, from the teaching of the prior art, one of ordinary skill in the art by varying the ratio of the components could not have achieved the results claimed by the above-identified patent application because of the problems of ammonia evaporation and phosphate persistence in the raw poultry litter. If one wants to

lower the phosphate content by adding less litter and more of the other components, the nitrogen content would also decrease accordingly. The prior art does not teach how to maintain the nitrogen content at a high level, while at the same time, reducing the phosphorus content.

10. Additionally, in any consideration of soil deficiencies and crop nutrient needs, it is always desirable to increase the phosphorus content as it is a nutrient used by the crops. This, however, is contrary to the invention of the above-identified patent application where the phosphorus content is actually reduced. A final phosphorus content of 0.35% is not possible if phosphorus is to be added to the raw poultry litter during processing.

11. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that such willful false statements may jeopardize the validity of the application of any patent issued thereon.

Date:

JAN 9, 2007

Frederic T. Heasley

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